



PATENT ABSTRACTS OF JAPAN

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(54) **PRODUCTION OF HIGH STRENGTH STEEL
 PIPE HAVING EXCELLENT SULFIDE STRESS
 CORROSION CRACK RESISTANCE**

(57) Abstract:

PURPOSE: To obtain a steel pipe having excellent SSCC resistance and strength by acceleration-cooling after hot pierce-rolling a specific composition of steel billet, successively, mandrel-rolling to make a seamless steel pipe and, thereafter, immediately quenching and tempering.

CONSTITUTION: The composition of the steel is made to be, by wt.%, 0.15-0.4 C, 0.1-1 Si, 0.3-1 Mn, 0.1-1.5 Cr, 0.3-1 Mo, 0.0005-0.003 B, 0.01-0.1 Al, 0.003-

0.01 N, ≤ 0.015 P, ≤ 0.005 S, and further, one or more kinds of 0.01-0.05 V, 0.01-0.05 Nb and 0.01-0.03% Ti and the balance Fe. This steel billet is heated to 1250-1350 °C and the Mannesmann type seamless rolling is applied to execute hot-piercing. This pipe is acceleration-cooled to the recrystallizing temp. +50 °C to the recrystallizing temp. +100 °C. Rolling reduction is executed to this pipe by the mandrel-rolling at $\leq 30\%$ and at the recrystallizing temp. to the recrystallizing temp. +30 °C, and finished at $\leq A_{r3}$ transformation point to make the seamless steel pipe. This pipe is immediately water-hardened and, thereafter, the tempering is executed.

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